(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

TAIPO OMPI

- 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101) 1 (101)

(43) International Publication Date 15 July 2004 (15.07.2004)

PCT

(10) International Publication Number WO 2004/059730 A1

(51) International Patent Classification⁷: 23/48

H01L 23/12,

(21) International Application Number:

PCT/US2002/040307

(22) International Filing Date:

18 December 2002 (18.12.2002)

(25) Filing Language:

English

(26) Publication Language:

English

- (71) Applicant (for all designated States except US): INTER-NATIONAL BUSINESS MACHINES CORPORA-TION [US/US]; New Orchard Road, Armonk, NJ 10504 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): CHAUDHARI, Praveen [US/US]; 416 Long Hill Road East, Briarcliff Manor, NY 10510 (US).
- (74) Agent: HOWARD, James, E.; McGinn & Gibb, PLLC, 8321 Old Courthouse Road, Suite 200, Vienna, VA 22182-3817 (US).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

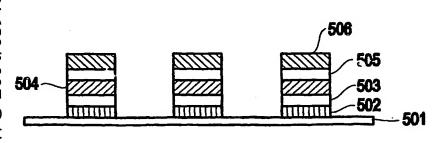
of inventorship (Rule 4.17(iv)) for US only

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF SELF-ASSEMBLING ELECTRONIC CIRCUITRY AND CIRCUITS FORMED THEREBY



(57) Abstract: A method of assembling a circuit includes providing a template, enabling a semiconductor material to self assemble on the template, and enabling self-assembly of a connection between the semiconductor material and the template to form the circuit and a circuit created by self-assembly.

WO 2004/059730 A1 ||||||

INTERNATIONAL SEARCH REPORT

International application No. PCT/US02/40307

A. CLASSIFICATION OF SUBJECT MATTER IPC(7): H01L 23/12, 23/48 US CL: 257/700, 703, 741, 758-760 According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols) U.S.: 257/700, 703, 741, 758-760			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
X	US 6,407,443 B2 (Chen et al.) 18 June 2002 (18.06.2002), col. 3 lines 42-59		1, 7, 13
A	US 6,340,822 B1 (Brown et al.) 22 January 2002 (22.01.2002), col. 3 lines 3 lines 48-67 and col. 4 lines 25-65.		1-18
A	US 2001/0023986 A1 (Mancevski) 27 paragraph 40-42.	September 2001 (27.09.01),	1-18
Further documents are listed in the continuation of Box C. See patent family annex.			
Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"O" do	ted to establish the publication date of another citation or other ectal reason (as specified) ocument referring to an oral disclosure, use, exhibition or other eans	"Y" document of particular relevance; if considered to involve an inventive combined with one or more other subeing obvious to a person skilled in	e step when the document is ch documents, such combination
"P" do	coment published prior to the international filing date but later than e priority date claimed	"&" document member of the same paten	
Date of the actual completion of the international search Date of mailing of the international search report			earch report
24 FEBRUARY 2003		14 MAY 2003 L)o DP loga
Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231		Authorized officer ALONZO CHAMBLISS Telephone No. (103) 308-7956	Deborah P. Vega aralegal Specialist hnology Center 280 (703) 308-3078
Form PCT/ISA/210 (second sheet) (July 1. 98)* (703) 308-3078			